Sandy Run Roasting Plant

A LEED® Certified Starbucks Coffee Company Plant

Starbucks Mission

- To inspire and nurture the human spirit – one person, one cup, and one neighborhood at a time.
  - Our Coffee
  - Our Partners
  - Our Customers
  - Our Stores
  - Our Neighborhood
  - Our Shareholders

What is LEED®

- The Leadership in Energy and Environmental Design as designed by the US Green Building Council (USGBC)
- Gold Standard for objective third party verification of green buildings in North America
- Environmental Categories
  - Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources and Indoor Environment

Why LEED® and Starbucks

- Starbucks is committed to reducing the environmental foot print of our operations
- LEED® is the preeminent objective system that provides verification to our green building claims
- Establishes an excellent benchmark to compare buildings across the real estate spectrum

LEED® Rating System

- All Prerequisites must be achieved
- The environmental categories are subdivided into established LEED® credits
- Official Scores
  - Certified: 26-32 points
  - Silver Rating: 33-38 points
  - Gold Rating: 39-51 points
  - Platinum Rating: 52+ points

Achieving LEED® Credits

- Indicate and verify all of the building's green elements on the LEED® checklist
- Submit application to the USGBC for certification
- The total number of points awarded by the USGBC will determine certification level

Sandy Run Roasting Plant

- 120,000 sq ft manufacturing facility opened in August 2008, first production in November 2008
- Partner count = 90 full time positions (22 exempt, 68 non-exempt)
- Staff 24 hrs/day, 5 days/week
- Manufacturing equipment includes 6 roasters and 4 packaging lines
- Produce average of 1 million lbs of roasted coffee each week
- Distribute just-in-time to all customers
- Carry over 90 total active sku’s

Initial Green Goals

- Be good environmental stewards – minimize environmental impact of building
- LEED® Certification (Silver)
- Reduce utility and operating costs
- Use building as a green showcase

Sustainable Sites

- Earned 9 out of a possible 14 points

- Prerequisite – Construction Application
  - Project followed local erosion and sedimentation control standards and codes which are more stringent than the NPDES program requirements

Sustainable Sites

- Site Selection
  - Project site does not meet any of the prohibited criteria
- Alternative Transportation
  - Bicycle storage provided for 5% of users
  - Shower facilities provided for 1.6% of users
  - Preferred parking for Low Emitting/Fuel Efficient Vehicles provided at more than 5% of spaces
  - Onsite parking does not exceed zoning requirements with 5% of spaces provided for car/van pools

Sustainable Site

- Maximize Open Space
  - Provided greater than 25% of open space
- Stormwater Management
  - Plan that results in no net increase of runoff from pre-project conditions
  - Plan reduces impervious cover, promotes infiltration and captures and treats the stormwater runoff from 90% of the average rainfall
  - Capable of removing 80% of the total suspended solids from the average annual post-development runoff

Sustainable Site

- Heat Island
  - Roofing materials used are compliant with SRI values for 98% of roof surface
- Light Pollution Reduction
  - Designed to meet IES RP-33 requirements
  - Interior Lighting: Lighting fixtures located to maintain maximum candela output
  - Exterior Lighting: Lighting power densities and landscape lighting does not exceed 80% and 50% of ASHRAE recommendations
  - Light Trespass: project located in LZ-3 and meets requirements

Water Efficiency

- Earned 4 out of a possible 5 points
- Water Efficient Landscaping
  - No permanent irrigation system has been installed. Planting will only be watered during initial establishment period.
- Water Use Reduction
  - Reduced potable water use by 43% through waterless urinals and low flow fixtures

Energy & Atmosphere

- Earned 5 out of a possible 17 points
- Prerequisites
  - Construction Application - Fundamental commissioning requirements have been completed
  - Minimum Energy Performance – Project complies with mandatory provisions
  - Fundamental Refrigerant Management – The base building HVAC system does not use CFC-based refrigerants

Energy & Atmosphere

- Optimize Energy Performance
  - Project has a performance rating of 23.1% using the ASHRAE 90.1-2004 Appendix G methodology
- Enhanced Commissioning
  - Enhanced Commissioning requirements completed
- Enhanced Refrigerant Management
  - Selected refrigerants and HVAC that minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. The completed Refrigerant Impact Calculation is equal to or less than 100 per ton.

Energy & Atmosphere

- Measurement & Verification
  - Project developed and implemented a measurement and verification plan consistent with option B of the IPMVP
  - Added meters around site
- Green Power
  - Project purchased Green-e Tradable Renewable Certificates equal to 35% of predicted electrical consumption over a 2 year period

Materials & Resources

- Earned 6 out of a possible 13 points

- Prerequisites – Construction Application
  - Project provided appropriately sized and dedicated areas for the collection and storage of recycling materials

Materials & Resources

- Construction Waste Management
  - Project diverted 454 tons (76%) of on-site generated construction waste from landfill
- Recycled Content
  - 22% of total building materials content, by value, have been manufactured using recycled materials
- Regional Materials
  - 43% of the total building materials and/or products value have been extracted, processed and manufactured within 500 miles of project site

Indoor Environmental Quality

- Earned 10 out of a possible 15 points
- Prerequisites
  - Minimum IAQ Performance – Project complies with the minimum IAQ performance requirements
  - Environmental Tobacco Smoke Control – Smoking is prohibited in buildings within project and designated smoking areas have been located away from building openings and air intakes

Indoor Environmental Quality

- Outdoor Air Delivery Monitoring
  - CO2 concentrations are monitored within all densely occupied spaces and direct airflow measurement devices are provided for each mechanical ventilation system
- Construction IAQ Management Plan: During Construction
  - Implemented plan

Indoor Environmental Quality

- Low-Emitting Materials: Adhesives & Sealants, Paints & Coatings, Carpet Systems, Composite Wood& Agrifiber
  - All Adhesive, sealant products, indoor paints, stains, clear finishes, carpet systems, and indoor composite wood materials comply with VOC limits

Indoor Environmental Quality

- Indoor Chemical & Pollutant Source Control
  - Installed required indoor chemical and pollutant source control measures
- Thermal Comfort: Design and Verification
  - Thermal controls available for individual work stations and shared spaces
  - Within first 18 months an occupant survey will be delivered – no more than 20% of occupants can be dissatisfied with thermal comfort

Indoor Environmental Quality

- Daylight &amp: Daylight 75% of Spaces
  - Achieved a minimum 2% glazing factor in 81% of all regularly occupied spaces

Innovation & Design Process

- Earned 5 out of a possible 5 points
- Construction Application
  - 43% of the total building materials and/or products value have been extracted, processed and manufactured within 500 miles of project site
- Design Application
  - Provided greater than 25% of open space

Innovation & Design Process

- Design Application
  - Project elected to follow LEED® EB MR credit 6 compliance for innovation credit
    - Only low Mercury content bulbs purchasing policy established
  - Reduced potable water use by 43% through waterless urinals and low flow fixtures

Innovation & Design Process

- LEED® Accredited Professional
  - A LEED® AP has been a participant on the project development team
  - Mark Gelfo, PE, LEED® AP, CxA

    Principal, Division Director

    TLC Engineering for Architecture

Final Score

- Awarded 39 points in total
- Achieved Gold rating

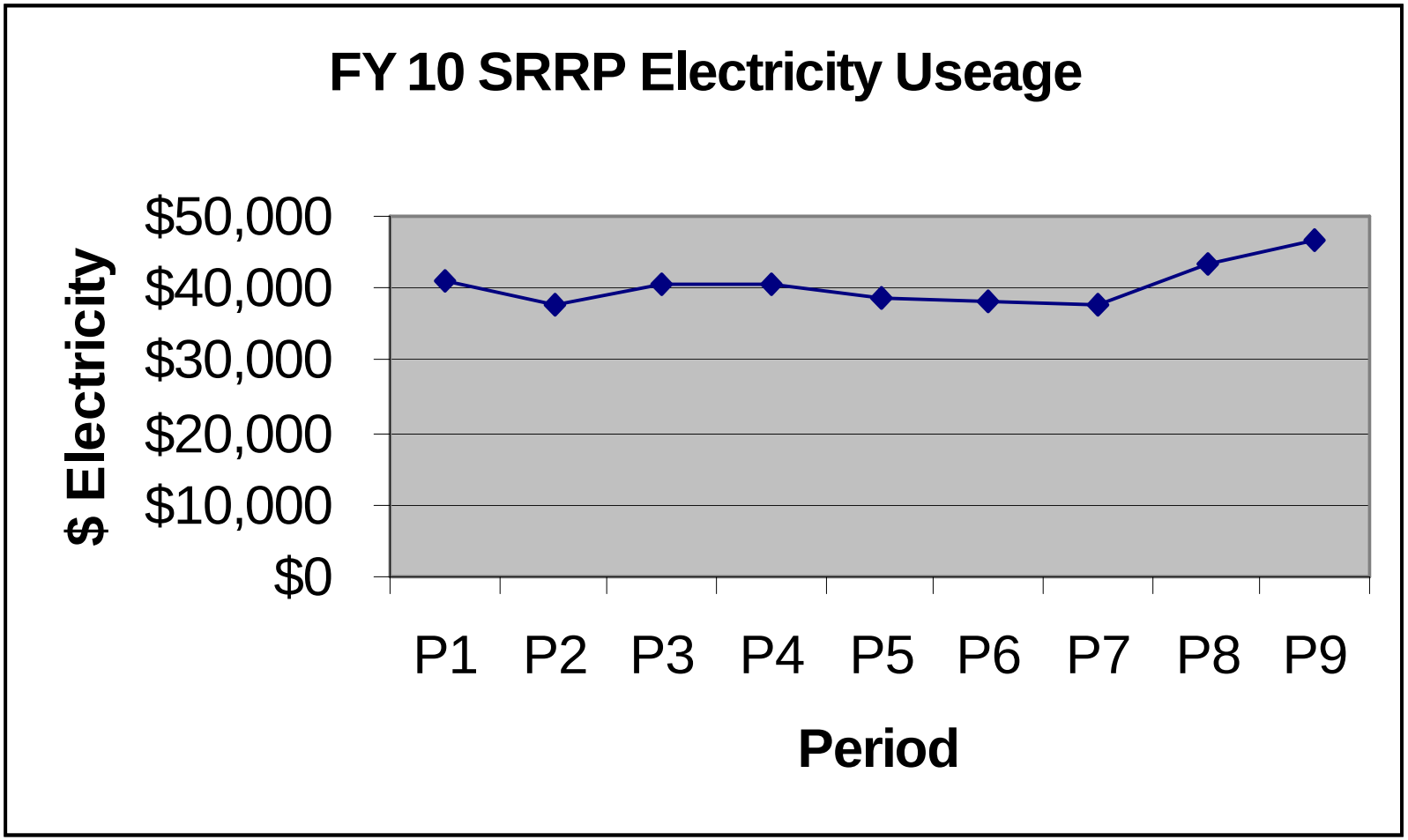
Company Future in LEED®

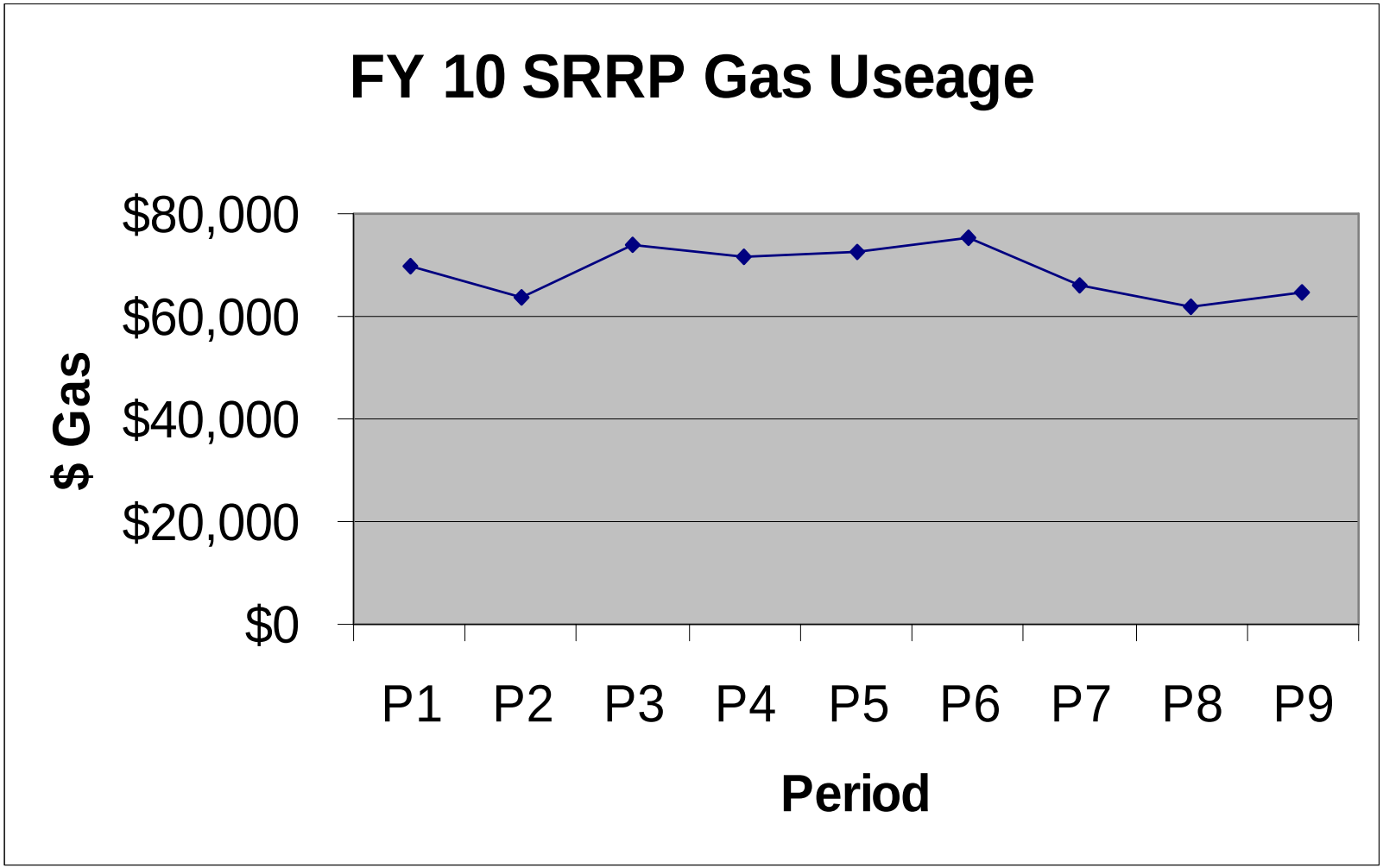
- Shared Planet Goal
  - Achieve LEED® certification for our new, company-owned stores beginning in 2010

- Progress – On Track
  - Corporate Headquarters received LEED-EB® Gold Certification in 2007
  - As a participant in the U.S. Green Building Council's LEED® Volume Certification pilot program, in 2009 we submitted formal plans to build or renovate minimum of 10 pilot stores around the world

SRRP Future Improvements

- Form an energy reduction team
- Reduce energy usage output by 5%
- Reduce electric usage
- Reduce gas usage reduction
- Create an energy awareness campaign


FY 10 SRRP Electricity Useage
$ Electricity
$50,000
$40,000
$30,000
$20,000
$10,000
$0
P1
P2
P3
P4
P5
P6
P7
P8
P9
Period


FY 10 SRRP Gas Useage
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$60,000
$40,000
$20,000
$0
$ Gas
P1
P2
P3
P4
P5
P6
P7
P8
P9
Period

Electric usage reduction

- Air Consumption – November 2010
  - Complete an air leak survey
  - Repair air leaks
  - Purchase ultrasonic monitoring equipment
  - Develop/Implement air leak PM

- Lighting – November 2010
  - Review and finalize lighting shutdown list
  - Program lighting controls
  - Set-up panel meters
  - Set-up lighting program procedures and training

- Process Equipment – December 2010
  - Refine weekend shutdown list
  - Evaluate if baggers should be shutdown
  - Evaluate capability to automate shutdown of conveyors

Electric usage reduction

- HVAC – December 2010
  - Program operating parameters to reduce cost
  - Optimize temperature set-points on roaster panel coolers
  - Evaluate thermostat in silo building
  - Install controls on roof exhaust

- Energy Audit – March 2011
  - Identify energy auditing firm (SCMEP)
  - Operations review
  - Cost & Consumption review
  - Walk through inspection
  - This report will include an overall energy balance for the facility and will identify and estimate potential energy saving opportunities.

Gas usage reduction/Energy awareness campaign

- Gas usage reduction – March 2011
  - Optimize roaster warm up time
  - Complete infrared thermal imaging of roasters , ductwork and motors
  - Complete noted duct leak repairs
  - Develop a plan to address heat leaks

- Energy Awareness campaign – June 2011
  - Communication of energy use reduction to site
  - Develop visual tracking tool to communicate progress
  - Identify operational awareness objectives and communicate to site
  - Provide energy savings updates/reminders at plant meetings